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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of: Yishao Max HUANG
Serial No.: 10/047,518 ✓
Filed: October 26, 2001
For: PCI-PCMCIA Smart Card Reader
Group: 2181
Examiner: DOCKET: O2MICRO 02.12

The Assistant Commissioner of Patents
Washington D.C., 20231

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Technology Center 2100

PETITION TO MAKE SPECIAL UNDER M.P.E.P. § 708.02(VIII)

Sir:

Applicant petitions the Commissioner of Patents and Trademarks under M.P.E.P. § 708 to make this application and receive accelerated examination. Enclosed herewith is a check in the amount of \$130.00 to cover the fee for this petition as set forth in 37 C.F.R. § 1.17(h). If any additional fees are required in connection with the filing of this petition, please charge those fees to Deposit Account No. 50-2121.

Filed concurrently herewith is a preliminary amendment, in which applicants have cancelled claims 1-13, as originally filed in favor of new claims 14-30, as provided in the preliminary amendment. Applicants respectfully request that this Petition to Make Special applies to the claims presented in the preliminary amendment.

All claims presented for examination are believed to be directed to a single invention. If, however, the examiner requires a restriction, applicants provisionally elect for

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prosecution of claims that requires integrated expansion card occupying a single bus slot of a computer system (for example, as represented by claims 14-26).

Also, in accordance with M.P.E.P. § 708.02(VIII), applicants affirm that a preexamination search has been made by an attorney who made searches in classes 395, 308, 732, 733 and 742. Also, applicants have performed keyword searches for published PCT applications, European patents and Japanese abstracts. The following references were developed during the searches and during later investigations, and a copy of the each reference is enclosed along with a copy of PTO Form SB-08A listing these references.

SUMMARY OF THE INVENTION

This invention discloses methods and apparatus for an integrated expansion card that occupies a single bus slot of a computer system. The invention includes a first and second embedded devices on the integrated expansion card that are operable to share a single bus slot. Additionally, one of the embedded devices, for example, the second embedded device includes a bus host controller that is operable to input and output commands and data to the bus and to an expansion card device connected to the bus host controller.

In one exemplary embodiment, as shown in Figure 1, the invention includes a PCI-to-PCMCIA host controller 110 and a video device 120 that operate along a single PCI bus channel 100. The PCI-to-PCMCIA host controller is adapted to provide input and output to exchange commands and data between the PCI-to-PCMCIA host controller 110 and a smart card reader 140 to communicate with a smart card 150.

Claims 14-26 claim an integrated expansion card occupying a single bus slot of a computer system that includes a first embedded device and a second embedded device. The first and second embedded devices are operable to share a single bus slot. The second

embedded device includes a host controller that is operable to input and output commands and data to said bus and to an expansion card device connected to said bus host controller.

Claims 27-30 are directed to an integrated, multi-function expansion card for a computer system that includes a first embedded device and a second embedded device comprising a PCI to PCMCIA host controller. The expansion card also includes first and second input/output paths for exchanging controller signals and data between the first or second embedded devices and the computer system via a single PCI bus connection. A third input/output path is provided for exchanging control signals and data between the second embedded device and an expansion card device. A function router is provided to select between the first or second embedded devices to operate on the first or second input/output path.

DETAILED DESCRIPTION OF THE REFERENCES

1. Chambers et al, US Patent No. 6,108,738.

Chambers et al disclose a multiple bus master PCI bus system integrated circuit. The integrated circuit includes a built in internal PCI bus. The internal PCI bus is adapted to transmit and convey data signals. The integrated circuit also includes a plurality of PCI agents to perform a respective function, and each of the plurality of PCI agents is coupled to the internal PCI bus to transmit and receive data.

The exemplary integrated circuit is depicted, for example, in Figures 4 and 5. The integrated circuit includes a plurality of PCI devices 404-414 that communicate along an internal PCI bus 416, an arbiter 402 is utilized to direct input/output commands between the internal PCI bus and the external PCI bus. Significantly, as shown in Figure 6, Chambers et al do not disclose or suggest using the multiple PCI agent integrated circuit for input/output

communications other than to the external PCI bus. For example, Figure 6 of Chambers et al discloses a SCSI adapter 602 and a LAN adapter 610 to provide input/output capability between the external PCI bus 490 and the respective devices connected to those PCI controllers 602 and 610. However, the multiple PCI agent IC 400 does not provide for any additional input/output, and only communicates along the PCI bus 490. Thus, Chambers et al does not disclose or suggest the use of the multiple PCI agent integrated circuit device 400 for input/output communications other than those directed to the external PCI bus.

2. Chambers et al., US Patent No. 5,870,570.

The '570 patent is similar to the '738 patent in that it discloses a multiple PCI agent integrated circuit device for connecting to an external PCI bus. The concept of the '570 patent is similar to the '738 patent except that a predictive arbiter 402 is used to grant control of the external PCI bus for connection to an external arbiter 401 (as shown in Figures 4 and 5). The '570 patent is likewise similar to the '738 patent in that, as shown in Figure 8, the multiple agent integrated circuit device 400 does not disclose or suggest a multiple bus device that is capable of providing input/output paths for exchanging commands and data to a device other than the PCI bus 418.

3. Chambers et al., US Patent No. 5,915,103.

The '103 patent is similar to both the '738 and the '570 references (discussed above) and discloses the same general concept of a multiple functional block integrated circuit device for connecting to an external PCI bus. The '103 reference also discloses additional circuit topology, as shown in Figure 6, and timing diagrams as shown in Figures 7-10, for operation of the multiple function block integrated circuit device.

4. Wilson, US Patent No. 5,960,213.

Wilson disclosed a PCI compliant device having an internal function and a secondary PCI port for a second PCI device having additional functions. The device adapts its internal function and memory and the functions and memory of the second PCI device such that the host system sees only a single multifunction device, which appears to have the combined memories and functions of the adapter and second PCI device.

This patent provides details of the functionality of the Glint Delta PCI processor produces by 3D Labs Incorporated Limited. This device acts as a multi-function adapter to allow multiple PCI devices to be placed on an expansion card. As shown in Figure 1, the PCI option card can include a PCI-PCI bridge which provides an additional PCI options slot for further input/output communications for further PCI input/output communications. Significantly, Wilson does not disclose or suggest a multifunction expansion card that includes operability to have one of the embedded PCI devices to communicate with an expansion card device connected to a bus host controller. Likewise, Wilson fails to disclose or suggest a plurality of input/output paths that extend beyond input and output to a PCI bus.

CONCLUSION

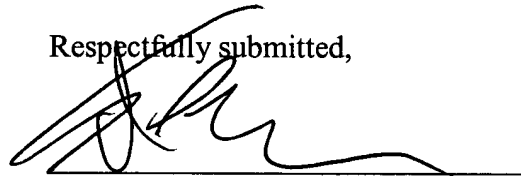
None of the references cited herein disclose or suggest a multifunctional bus device that includes two or more embedded bus devices, where at least one of the embedded devices provides input/output communication to an expansion card device. Further, none of the references cited herein disclose or suggest a multifunctional bus card that includes a PCI-to-PCMCIA host controller for controlling an expansion card device (for example, a smart card reader).

Accordingly, none of the references discussed herein renders the pending claims invalid under 35 USC §102. Further, there is no suggestion or reasonable combination of

these references under 35 USC §103 to render the pending claims obvious to a person of ordinary skill in the art.

Because the requirements of MPEP §708.02 (VIII) have been met, and because the pending claims are allowable over the references, Applicant requests that this Petition to Make Special be granted and that claims 14-30 of this application be passed to issue as quickly as possible.

Respectfully submitted,



Edmund P. Pfleger
Attorney for Applicant
Reg. No. 41,252

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231 on October 31, 2002 at Manchester, New Hampshire.

By: April T. Davis